

NAME Dingdong Yang
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EDUCATION

School of Management and Engineering, Nanjing University, Nanjing China Sep 2012-Jun 2016

- *Bachelor of Engineering, Major in Automation*
- GPA (4.0 Scale): 3.88 overall (WES) Rank: 2/25

Department of Electrical and Computer Engineering, University of Michigan, Ann Arbor MI USA Sep 2016-Apr 2018

- *Master of Science in Engineering, Major in Computer Vision*
- GPA (4.0 Scale): 3.87
- Under supervision by Prof Jason J. Corso and Prof. Honglak Lee
- Offered with two-term part-time RA opportunities respectively by the two professors

PhD in Computer Science, Simon Fraser University Burnaby, British Columbia, Canada Jan 2023-Present

- Under supervision by Professor Hao (Richard) Zhang and Professor Ali Mahdavi-Amiri.
- Interested in 3D Generative Models, Agentic 3D, Geometry Processing
- Skills and other interests: CUDA programming, strategy games (Heroes III, DOS2), detective novels

PUBLICATIONS/ <https://scholar.google.com/citations?user=bfrEr2YAAAAJ>

MeshFIM: Local Low-Poly Mesh Editing via Fill-in-the-Middle Autoregressive Generation

Dingdong Yang, Jian Liu, Biwen Lei, Haohan Weng, Zhuo Chen, Song Guo, Ali Mahdavi-Amiri, Hao Zhang, Chunchao Guo, 2026

Accepted to NeurIPS 2026, Review Rating 5/5/5

GALA: Geometry-Aware Local Adaptive Grids for Detailed 3D Generation

Dingdong Yang, Yizhi Wang, Konrad Schindler, Ali Mahdavi-Amiri, Hao Zhang, 2024

ICLR 2025, <https://arxiv.org/abs/2410.10037>, <https://openreview.net/forum?id=KYOdZRR6nr>

BRICS: Bi-level feature Representation of Image CollectionS

Dingdong Yang, Yizhi Wang, Ali Mahdavi-Amiri, Hao Zhang, 2023

arXiv preprint, <https://arxiv.org/abs/2305.18601>

AvatarGen: a 3D Generative Model for Animatable Human Avatars

Jianfeng Zhang, Zihang Jiang, **Dingdong Yang**, Hongyi Xu, Yichuan Shi, Guoxian Song, Zhongcong Xu, Xinchao Wang, Jiashi Feng, 2022

arXiv preprint, <https://arxiv.org/abs/2208.00561> (55 citations), ECCV Workshop 2022

D2HNet: Joint Denoising and Deblurring with Hierarchical Network for Robust Night Image Restoration

Yuzhi Zhao, Yongzhe Xu, Qiong Yan, **Dingdong Yang**, Xuehui Wang, Lai-Man Po, 2022

ECCV 2022

Diversity-Sensitive Conditional Generative Adversarial Networks

Dingdong Yang, Seunghoon Hong, Yunseok Jang, Tianchen Zhao, Honglak Lee, 2018

ICLR 2019 (211 citations)

Automatic correction of lithography hotspots with a deep generative model

Woojoo Sim, Kibok Lee, **Dingdong Yang**, Jaeseung Jeong, Ji-Suk Hong, Sooryong Lee, Honglak Lee

SPIE 2019

Inferring Semantic Layout for Hierarchical Text-to-Image Synthesis

Seunghoon Hong, **Dingdong Yang**, Jongwook Choi, Honglak Lee, 2017

CVPR 2018 (530 citations)

WORKING AND PROJECT EXPERIENCES

2026 Summer Internship: SmartMesh: Robust low-poly mesh generation via sequence augmentation Meta 3DGen AI, Burlingame, CA, USA	May 2026-Present Burlingame, CA, USA
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Autoregressive low-poly mesh generation can produce accurate connectivity patterns, but it is prone to incomplete outputs and repeated failure modes. In this ongoing project, we identified these issues and designed a sequence augmentation strategy that stabilizes training and improves validation/test performance. The method, SeqAug, combines order relaxation with an explicit delete token to preserve the benefits of low-entropy ZYX lexicographic ordering while substantially reducing the train-test discrepancy.

2025 Winter Internship: MeshFIM: Local Low-Poly Mesh Editing via Fill-in-the-Middle Autoregressive Generation Tencent Hunyuan3D, Shenzhen, China	Dec 2025-May 2026 Shenzhen, China
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As project lead, I initiated and fully led MeshFIM end-to-end. I introduced a fill-in-the-middle framework that turns autoregressive low-poly mesh generation from an all-or-nothing process into controllable local editing, regenerating only the target region while preserving the satisfactory structure elsewhere. The method conditions on surrounding context and reference geometry, with mesh-specific designs for exact boundary attachment, topological order preservation, and overflow suppression, enabling interactive brush-based editing and automatic defect repair. I drove the problem definition, method design, implementation, experiments, and paper writing.

2025 Summer Internship: Relightable 3D Gaussian Splatting Generation Adobe, Seattle USA	May 2025-Aug 2025 Seattle, WA, USA
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This project focuses on generating relightable 3D Gaussian Splatting (3DGS). We develop a method that produces 3DGS assets that are fully relightable without assuming a specific shading model, making them compatible with both surface-based and volumetric shading. Notably, the resulting 3DGS supports real-time relighting. This work is currently under submission.

AvatarGen: a 3D Generative Model for Animatable Human Avatars Bytedance (Mother company of TikTok), Computer Vision Engineer	Apr 2022–Nov 2022 Shenzhen, China
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In this project we develop a state-of-the-art 3D generative model for animatable human avatars. Empowered by tri-plane representation, SDF-based volume rendering, decomposed pose guided canonical mapping and SMPL guided geometry learning, our model can generate high quality 3D geometry model and 2D correspondence of human avatars, significantly outperforming previous methods. Our results can also be animated to arbitrary human poses and are compatible for other downstream tasks such as single image human avatar reconstruction and text-driven avatar generation. Part of this work has been released as an arXiv preprint.

Rendering driven AI Makeup System Bytedance (Mother company of TikTok), Computer Vision Engineer	Jun 2021-Nov 2022 Shenzhen, China
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This is a project where we combined CG and CV techniques to get an industrial level controllable and precise makeup effect pipeline. I am the **owner** of this project, **contributor** to most of the algorithms and **main developer** of software components.

1. In the lip makeup part, pairs of data are obtained by cutting edge StyleGAN algorithms and well-designed post-processing algorithms (TPS, Poisson diffusion, CRF, etc.). Then, a delicate Pix2Pix network is trained for deployment on mobile devices. **In this project, we solved the long-existing interframe flickering problem in pix2pix processed videos from the view of frequency domain.** This contribution has been patented and I am the first inventor.
2. In the skin makeup part, I utilize face reconstruction techniques (AlbedoMM + FLAME) together with commercial 3D/rendering software to change human face skin textures. In this project, I greatly refine the reconstruction results by changing the projection method, retargeting landmarks, introducing face-parsing

loss, and so on. I also contributed a code that can automatically dump arbitrary bands of Spherical Harmonics bases, gradients of those bases to pytorch/python, libtorch/c++ header, and shader files.

Portrait Restoration

Sep 2019-Jun 2021

Sensetime-Sony JV, CV Researcher

Shenzhen, China

In this project, we are trying to improve the imaging quality of portrait pictures taken by modern mobile devices. I am in charge of the main neural network model design and training as well as image pre- and post-processing operation designs. We combined several network design choices (pix2pixHD, StyleGAN2, U2Net etc.) to get a highly efficient model. For the network training, we borrowed methods from different topics like general GAN training, deblurring, super resolution and so on. This project also includes many other low-level imaging topics such as quality filtering, network distillation and quantization, color correction, fixed point image processing operations, etc. Our product can achieve multi-face processing (up to 1440x1440 res per face) at the costing only 300ms and has been adopted by many well-known mobile phone manufacturers.

Noise Modeling and Estimation

Jun 2019-Dec 2019

Sensetime-Sony JV, CV Researcher

Shenzhen, China

Noise modeling is an important topic for low-level vision tasks and training augmentation designs. We dedicatedly dig into the physical and software cell phone camera system and choose Poisson and Tukey-Lambda distribution to model it. The noise is calibrated on captured Bayer pattern (RAW) images and can cover ISO100 to ISO8000+. This project is a base for other downstream tasks and we publish a paper on ECCV 2022 based on it. I am the owner of this project.

Automatic Annotation Pipeline of Mouse Behaviors in Biology Experiment Videos,

Jun 2018-Jun 2019

Providence, RI, USA

Full-time research assistant in Thomas Serre's Lab

When working at Thomas Serre's Lab, I built a pipeline that uses an inflated 3D convolutional network to do behavior recognition of mice in biology experiment videos. The network inflates inception network's weights and makes all 2D operations to 3D ones. We were working with partners around world including NIH to train the network on thousands of hours of videos and aiming to then build a complete pipeline for other labs to use to analyze their experiment results.